

21(7)

AUTHORS:

Kononov, V. N., Stavisskiy, Yu. Ya., Tolstikov, V. A.

SOV/89-5-5-10/27

TITLE:

Measurement of the Cross Section of the Radiation Capture of Neutrons With an Energy of 25 keV (Izmereniye secheniy radiatsionnogo zakhvata neytronov s energiyey 25 keV)

PERIODICAL:

Atomnaya energiya, 1958, Vol 5, Nr 5, pp 564-564 (USSR)

ABSTRACT:

By means of the activation method the cross section for the photoneutrons of a Sb+Be-source was measured ($E_n \sim 25$ keV). A spherical source of 3 cm diameter was used, which radiates about 10^7 n/sec. The beryllium layer had a thickness of 1 cm. J^{127} was used as standard of reference. Activity was measured by means of the counting tube MCT-17. The following cross sections were measured:

	Isotope	σ mb	Isotope	σ mb
Card 1/3	Na ²³	$1,72 \pm 0,27$	Br ⁷⁹	710 ± 33
	Al ²⁷	$1,90 \pm 0,27$	Sr ⁸⁶	400

Measurement of the Cross Section of the Radiation Capture of Neutrons With
an Energy of 25 keV

SOV/89-5-5-10/27

Isotope	σ mb	Isotope	σ mb
Si ³⁰	2,09 \pm 0,51	Rb ⁸⁷	29,0 \pm 1,4
Cl ³⁷	3,71 \pm 0,64	Nb ⁹³	120 \pm 12
K ⁴¹	26	Mo ¹⁰⁰	112 \pm 3
V ⁵¹	32,5 \pm 2,1	Ag ¹⁰⁷	1330 \pm 91
Mn ⁵⁵	65 \pm 3	In ¹¹⁵	590 \pm 20
Ni ⁶⁴	37	Ba ¹³⁸	8,6 \pm 0,4
Cu ⁶⁵	38,6 \pm 0,3	W ¹⁸⁶	285 \pm 58
Zn ⁶⁸	24,0 \pm 2,8	Au ¹⁹⁷	960 \pm 6
Ga ⁶⁹	151,0 \pm 1,2	Tl ²⁰⁵	51 \pm 2

There is fairly good agreement between the measuring results obtained and the data given by reference 4. There are 1 table and 4 references, 0 of which is Soviet.

Card 2/3

S/903/62/000/000/044/044
B102/B234

AUTHORS: Stavisskiy, Yu. Ya., ~~Tolstikov, V. A.~~

TITLE: Measurement of the fast neutron radiative capture cross section of the isotopes $^{51}_{23}\text{V}$, $^{55}_{25}\text{Mn}$, $^{93}_{41}\text{Nb}$, $^{100}_{42}\text{Mo}$, $^{186}_{74}\text{W}$, $^{205}_{81}\text{Tl}$, and $^{232}_{90}\text{Th}$

SOURCE: Yadernyye reaktsii pri malykh i srednikh energiakh; trudy Vtoroy Vsesoyuznoy konferentsii, iyul' 1960 g. Ed. by A. S. Davydov and others. Moscow, Izd-vo AN SSSR, 1962, 562-571

TEXT: The radiative neutron capture cross sections of a series of isotopes were determined by the method of comparison measurements using $^{127}_{53}\text{I}$ as reference standard. The fast neutrons were obtained from $\text{T}(p,n)\text{He}^3$ reactions, the thermal neutrons from the thermal column of a fast reactor. The targets were ring-shaped in the case of $E_n < 300$ kev and in the form of discs for $E_n > 300$ kev, so arranged that in the first case the neutrons hit the target surface at an angle between 5 and 25° and in the second at 90°. In order to
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Measurement of the fast neutron...

S/903/62/000/000/044/044
B102/B234

prevent activation by scattered neutrons the target was coated by 0.5 mm Cd. In no case was the target thickness greater than 1/50 of the thermal neutron mean free path. The purity was verified by spectroscopic and lifetime analyses. The results, represented in the form of $\sigma(E_n)$ plots, are compared with those reported by others (e.g. Phys. Rev. 116, 927, 1959; 91, 1423, 1953, Atomnaya energiya, 5, 564, 1958; J. Nucl. Energy, 8, 197, 1959). The r.m.s. error was 2-3%, for Nb it reached 5-10% and was due to the weak activation attained. The maximum neutron energy spread was ± 12 kev for neutrons up to 200 kev and ± 30 kev for higher energies. The agreement with the experimental results of others is good. Comparison with theoretical considerations on the basis of the black-nucleus model yield partly better results (e.g. for W^{186}) than with the optical model. There are 9 figures.

ASSOCIATION: Fiziko-energeticheskiy institut Gosudarstvennogo komiteta Soveta Ministrov SSSR po ispol'zovaniyu atomnoy energii
(Physics and Power Engineering Institute of the State Committee of the Council of Ministers of USSR on the Utilization of Atomic Energy)

Card 2/2

S/062/63/000/003/016/018
B101/B186

AUTHORS: Yegorov, Yu. P., Kirey, G. G., Samoylenko, S. A.,
Chernyshev, Ye. A., and Tolstikova, N. G.

TITLE: Infrared spectra of unsaturated organosilicon compounds containing a pentamethyl disilyl group

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1963, 569 - 571

TEXT: The infrared spectra of the compounds $(CH_3)_3SiSi(CH_3)_2(CH_2)_nCH=CH_2$, $n=0, 1, 2$, were investigated and the intensity and position of the $\nu_{(C=C)}$ bands were compared with one another. It was found that $\nu_{(C=C)}$ is 1596 cm^{-1} with the vinyl derivative ($n = 0$) and that it is shifted to 1635 cm^{-1} with the allyl derivative ($n = 1$); further, that it has maximal intensity with this compound and that it is 1638 cm^{-1} with the γ -butyl derivative ($n = 2$). The position of the other bands, as $\nu_{(C-H)}$, $\rho_{(CH_2)}$, $\rho_{(CH)}$ differs little from what is usual with alkenyl silanes. According-
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Infrared spectra of ...

S/062/63/000/003/016/018
B101/B186

ly substitution of the CH_3 group in the trisilyl group of an alkenyl silane by a $(\text{CH}_3)_3\text{Si}$ group does not entail any qualitative change of the spectrum. There are 1 figure and 1 table.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: October 29, 1962

Card 2/2

TOLSTIKOV, V.A.; KOLESOV, V. Ye.; DOVBENKO, A.G.; STAVISSKIY, Yu.Ya.

Radiative neutron capture by copper and molybdenum nuclei.
Atom. energ. 17 no.6:505 D '64 (MIRA 18:1)

ACC NR:

AP7002962

(A)

SOURCE CODE: UR/0413/66/000/024/0041/0042

INVENTOR: Bushmin, M. Ye.;
Tolstikov, V. F.

Smelyakov, V. V.; Mints, M. Ya.; Pungin, L. M.,

ORG: None

TITLE: A digital infrasonic phase-frequency meter. Class 21, No. 189485 [announced by the Kharkov Higher Master Engineering Academy (Khar'kovskoye vyssheye komandno-inzhenernoye uchilishche)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 41-42

TOPIC TAGS: digital system, phase meter, frequency meter, logic element

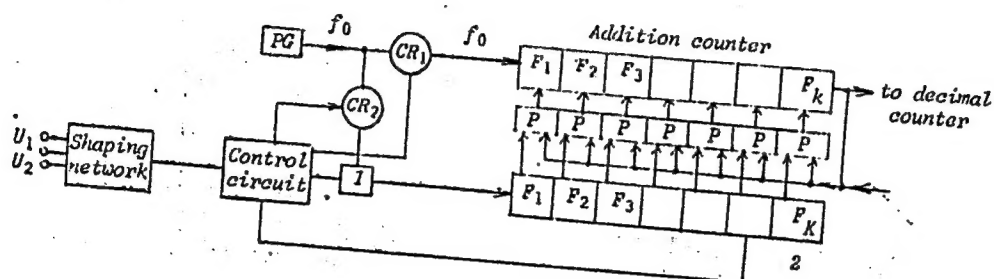
ABSTRACT: This Author's Certificate introduces a digital infrasonic phase-frequency meter with intermediate time-pulse conversion containing a standard generator with output connected through controlled rectifiers to the inputs of addition and subtraction pulse counters, a shaping network and a registration unit. Measurement accuracy is improved and speed is increased by using a frequency divider connected to the input circuit of the subtraction counter in series with a controlled rectifier, together with a control unit based on logical elements and a reversible counter. One of the inputs of the control unit is connected to the shaping network, the other input is connected to the subtraction counter and the outputs are connected to the controlled rectifiers.

Card 1/2

UDC: 621.317.761:621.317.772

ACC NR:

AP7002962



1—frequency divider; 2—subtraction counter

SUB CODE: 09/ SUBM DATE: 17Aug64

Card 2/2

EPIK, P.A.; TOLSTIKOV, V.P.

Frontal progress of the oxidation reaction of sulfite with
chlorate. Zhur. fiz. khim. 39 no.4:947-950 Ap '65.

(MIRA 19:1)

1. Kiyevskiy politekhnicheskij institut. Submitted Dec. 14, 1963.

TOLSTIKOV, V. P.

Tolstikov, V. P. and Epik, P. A. The effect of Ph-characteristics of the media on the oxidations reaction of sulfites by chlorates," Izvestiyy Kiyevsk. politekhn. in-ta, Vol VIII, 1948 (on Cover: 1949) p. 168-69

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 26, 1949)

TOLSTIKOV, V. P.

Tolstikov, V. P. "Titration of mild acids," *Izvestiya Kiyevsk. Politekhn. in-ta*, Vol VIII, 1948 (on cover: 1949), p. 173-74

SO: U-5241, 17 December 1954, (*Letopis 'Zhurnal 'nykh Statey*, No. 26, 1949)

CA

Influence of the pH of the medium on some oxidation-reduction reactions. P. A. Epik and V. P. Tolstikov (Kiev Polytech. Inst.). *Zhur. Obshchei Khim. (J. Gen. Chem.)* 26, 783-9 (1950).—The rate of the oxidation of K_2AsO_4 by KBrO_3 was investigated at 15°. In solns. approx. 0.1 N in each reactant, at different concns. of HCl . No reaction occurs at $\text{pH} > 4$; it becomes noticeable with HCl 0.05 N, and increases rapidly with increasing concn. of HCl (0.1, 0.2, and 0.3 N). The kinetic curves are distinctly autocatalytic, with an initial induction period, a self-acceleration branch, and eventual slowing-down. In the acid medium, the reaction is evidently represented by $3\text{H}_2\text{AsO}_4^- + \text{BrO}_3^- \rightarrow 3\text{H}_2\text{AsO}_4^- + \text{Br}^-$. That the accelerating factor is the Br^- ion, is demonstrated by the fact that advance introduction of KBr (0.01 M) suppresses both the induction period and the acceleration; K_2AsO_4 has no such effect. The effect of Br^- is accounted for by splitting the overall reaction into the consecutive steps $\text{BrO}_3^- + 5\text{Br}^- + 6\text{H}^+ \rightarrow 3\text{Br}_2 + 3\text{H}_2\text{O}$ and $\text{H}_2\text{AsO}_4^- + \text{Br}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{AsO}_4^- + 2\text{Br}^- + 2\text{H}^+$. In H_2SO_4 , the rate shows a similar dependence on the pH as in HCl , only the reaction is somewhat slower, at equal H^+ ion activity. The oxidation of K_2AsO_4 by KClO_3 requires a HCl concn.

at least as high as 2 N; the rate increases with the acidity (3 and 4 N HCl), and there is no autocatalysis. Oxidation of Na_2SO_3 by KClO_3 in solns. 0.1 N in each reactant, at 15°, remains unobservable for 7 hrs. with HCl 0.025 N; with HCl 0.05 N, there is an induction period of 20–40 min., followed by acceleration and eventual slowing-down. The length of the induction period increases with the concn. of Na_2SO_3 . The rate increases sharply with further increasing concn. of HCl (0.075, 0.1, and 1 N). It is noteworthy that, though the oxidation proceeds smoothly in HCl 0.05 N (after the induction period), it does not take place within 24 hrs. in a soln. buffered by NaH_2PO_4 to the same pH of 4.3. The induction period is interpreted by the accumulation of H^+ ions, according to $\text{ClO}_3^- + 3\text{H}_2\text{SO}_3 \rightarrow \text{Cl}^- + 3\text{SO}_4^{2-} + 3\text{H}^+$, possibly also by the side reaction $\text{Cl}_2 + 2\text{H}_2\text{SO}_3 \rightarrow 2\text{SO}_4^{2-} + 2\text{H}^+$ owing to traces of air (despite exclusion of air). In an initially sufficiently acid soln., 0.075 N in HCl and above, there is no induction period, and further increase of the acidity increases the rate of oxidation only slightly. The pH dependence of the rates of the above reactions can be interpreted on the basis of a catalytic action of H^+ ions consisting in a deformation of the BrO_3^- and ClO_3^- anions. N. Thon

TOLSTIKOV, V. P.

Reactions of Oxidation of Iodides by Some Oxygen Containing Compounds as
Determined by the pH of the Medium, page 1249, Sbornik Statey po obshchey
khimii (Collection of Papers on General Chemistry), vol II, Moscow-Leningrad,
1953, pages 1680-1686.

Kiev Polytechnic Inst

TOLSTIKOV, V P

✓ A differential method of detection or determination of oxidizing substances by pH regulation. V. P. Tolstikov (Polytech Inst., Kiev). *Zavodskaya Lab.* 21, 100 (1955).
C The method is based on the application of pH regulation to the differential iodometry to systems contg. 2 oxidizing agents, for the detn. of the one more sensitive to H^+ . The concn. of the other ion is detd. by the difference of the I set free in the first detn., and the total I produced by both oxidizing agents at a sufficiently high acidity of the system. The analysis of iodates was found to be possible at a pH of 4.5 in the presence of not too large excess of bromates; at a pH of 4-4.5 in the presence of vanadates; at 3.0-4.5 with selenites; and at 2-5.4 with arsenates. MnO_4^- can be detd. at the following pH values: in the presence of bromides at 4.0-4.5; arsenates, 1.3-3.5; molybdates 0.1-2; but vanadates enter into some side reactions at a pH value at which they are not oxidized. Moreover, by regulating the pH, a table can be prepd. for the detection at different pH values by reduction with KI in the presence of other oxidizing agents. W. M. Sternberg

10-7027

TOLSTIKOV, V.P.

Polentiometric differential titration curves. Ukr.khim.zhur.
22 no.3:373-378 '56. (MIRA 9:9)

1.Kiyevskiy politekhnicheskoy institut, Kafedra analiticheskoy
khimii.

(Titration)

TOLSTIKOV, V.P.

Iodometric determination of some oxidizing and reducing agents
in their mixture. Ukr.khim.zhur. 30 no.5:520-523 '64. (NIRA 18:4)

1. Kiyevskiy politekhnicheskii institut.

КРІК, Р.А.; ТОЛСТИКОВ, В.Р.

Selective iodometric determination of oxidizers. Izv.vys.ucheb.
zav.; khim.i khim.tekh. 2 no.5:667-673 '59. (MIRA 13:8)

1. Kiyevskiy politekhnicheskoy institut, kafedra analiticheskoy
khimii.

(Oxidizing agents)

(Iodometry)

5.3200
5.3200

5(2)

AUTHORS:

Epik, P. A., Tolstikov, V. P.

67032

SOV/153-2-5-5/31

TITLE:

Selective Iodometric Determination of Oxidizers

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1959, Vol 2, Nr 5, pp 667-673 (USSR)

ABSTRACT:

The rate and conversion degree of many redox reactions can be influenced at a high degree, or even prevented, by adjustment of the pH-values. As the corresponding zones of the pH-values of different reactions can be distinguished, the oxidizers can often be determined by selectivity. To establish these new methods of determination, a systematic study of the dependence of kinetics of many redox reactions on the pH becomes necessary. The authors carried out the study of the oxidation of the iodide (Ref 6). The present paper reports on a similar study in which arsenite was used as a reducing agent. The data published by various researchers on the dependence of the oxidation of the arsenite on the pH-value (Refs 4, 8-16), are difficult to compare. The authors wanted to study this dependence by applying various oxidizers. This is necessary - while the other conditions are constant - for the elaboration of the arsenite-iodometric determination of several of these oxidizers.

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SOV/153-2-5-5/31

Selective Iodometric Determination of Oxidizers

Arsenite can be rapidly and accurately titrated at $7 < \text{pH} < 11$. Figure 1 lists materials used as buffer solutions for keeping the above pH-range. 18 oxidizers were studied: nitrite, nitrate, vanadate, arsenate, antimonate, selenite, selenate, tellurite, tellurate, molybdate, chlorate, bichromate, hypochlorite, chlorite, bromate, iodate, periodate and permanganate. The experiment showed that the first 11 of the listed oxidizers were practically not reduced by the arsenite in the pH-range between 0 and 14 within the first 10 minutes. Permanganate is reducible at practically all pH-values, but no reproducible results were obtained. In each case a mixture of manganese compounds is being formed, each having a different valency. Tables 2 and 3 show that the remaining oxidizers react with arsenite depending on the pH and Δt (time elapsed between preparation of the reaction mixture and the start of the titration). Subsequently, several peculiarities of these reactions are mentioned. Table 3 gives the results of the determination of periodate. A figure (p 671) illustrates all of the results. The selective determination of several oxidizers containing oxygen is dealt with separately. Table 4 shows the determination of chromate in the presence of

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Selective Iodometric Determination of Oxidizers

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arsenate, antimonate and selenite; table 5 the determination of hypochlorite. The results give a review of the possibility of carrying out the determination mentioned in the title, and the conditions necessary for this. The practicability of the following selective iodometric determinations was confirmed: of chromate in the presence of arsenate, antimonate, selenite and molybdate (used separately); of hypochlorite in the presence of chromate; of bromate in the presence of vanadate. In most of the binary mixtures of oxidizers, both oxidizers can be determined by additional titration if the acidity of the medium is correct. There are 1 figure, 5 tables, and 18 references, 10 of which are Soviet.

ASSOCIATION: Kiyevskiy politekhnicheskii institut; Kafedra analiticheskoy khimii (Kiyev Polytechnic Institute, Chair of Analytical Chemistry)

SUBMITTED: June 21, 1958

Card 3/3

TOLSTIKOV, Vasil'y Sergeyevich; AZOROV, E.K., red.; TIKHONOVA, I.M.,
tekhn.red.

[More housing for the people] Bol'she zhilishch' dlia naroda.
Lenizdat, 1959. 56 p. (MIRA 12:4)

1. Zamestitel' predsdatelya Lengorispolkoma (for Tolstikov).
(Housing)

TOLSTIKOV, ¹/₂ I.

Meteorological station on Cape Shmidt Moskva, Izd-vo Glavsevmorputi, 1940. 35 P.

(Bibliotekha "Stakhanovtsey Arktiki," kn. 18)(50-46111)

QC989.R49T6

1. Meteorological stations - Russia - Mys Shmidta.

TOLSTIKOV, YE. I.

"Drift Continues," by Candidate of Geographic Sciences Ye. Tolstikov, former Chief of Station "North Pole-4", Grazhdanskaya Aviatsiya, No 5, May 55, pp 36-38

In the article the author covers the operations of the arctic drift station, "North Pole-4," among which were magnetic observations which permitted making more accurate magnetic maps and which showed local magnetic anomalies. Magnetist A. I. Delarov is mentioned.

SUM. I287

[.]
TOLSTIKOV, Ye. kandidat geograficheskikh nauk

~~work~~
A year's work on drifting ice. Mor. flot 15 no.7:8-11 J1 '55.
(Arctic regions) (MIRA 8:9)

TRESHNIKOV, Aleksey Fedorovich, Geroy Sotsialisticheskogo Truda, kandidat geograficheskikh nauk; TOLSTIKOV, Yevgeniy Ivanovich, Geroy Sovetskogo Soyuz, kandidat geograficheskikh nauk; USPENSKAYA, N.V., redaktor; ISLANT'YEVA, P.G., tekhnicheskii redaktor

[Drifting stations in the Mid-Arctic "North Pole-3" and North Pole-4"] Dreifuilushchie stantsii v Tsentral'noi Arktike "Severnyi polius-3" i "Severnyi polius-4." Moskva, Izd-vo "Znanie," 1956. 31 p.
(Vsesoiuznoe obshchestvo po rasprostraneniю politicheskikh i nauchnykh znanii. Ser. 3, no.24) (MLRA 9:7)
(Arctic regions)

TOISTIKOV, Yevgeniy Ivanovich

SEMEENOVA, M.M., redaktor; TIKHONOVA, Ye.A.,
tekhnicheskii redaktor

[On ice floes on the ocean; from the diary of a station chief]

Na l'dakh v okeane; iz dnevnika nachal'nika stantsii. Moskva, Izd-vo

"Morskoi transport," 1957. 123 p.

(MIRA 10:8)

(Arctic regions)

TOLSTIK, Ye. P., ()

"Soviet Research in the Arctic and Antarctic Zones within the International Geophysical Year."

paper presented at the XIth General Assembly of the Int'l. Union of Geodesy and Geophysics, Toronto, Canada, 3-14 Sept. 1957 (Izv. Ak Nauk SSSR - Ser Geog. 1958, No. 2, pp 3-8 [USSR]).

TOLSTIKOV, Ye.I.

Broadcasts from the Antarctic. Inform. biul. Sov. antarkt. eksp.
no.2:51-55 '58. (MIRA 12:8)

1. Nachal'nik Tret'yey kontinental'noy antarkticheskoy ekspeditsii.
(Antarctic regions)

3(5)

SCV/10-55-3-9/72

AUTHORS: Bugayev, V.A., and Tolstikov, Ye.I.

TITLE: The Surface Profile of the Antarctic Along the Line Mirnyy - South Pole - MacMurdo - Mirnyy

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geograficheskaya, 1959, Nr 3, pp 72-79 (USSR)

ABSTRACT: This is a report on a radiogram sent by the authors from the Third Continental Antarctic Expedition of the AS USSR. The radiogram on the surface profile of the Antarctic along the line Mirnyy - South Pole - MacMurdo - Mirnyy has been deciphered by L.D. Dolgushin. Graphs and charts added to this article were drafted by B.P. Mironov. First the measuring method is explained. For checking and counterchecking purposes, the following instruments were used: 1) standard aircraft altimeters; 2) radio-altimeters of the RV-10 type; 3) pairs of aneroid barometers; 4) outside-aircraft thermometers; 5) an altimeter band running uninterruptedly during the entire flight. Readings were made every 5 minutes, i.e. every 25 km, the average speed of the craft being about 300

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SOV/10-59-3-9/32

The Surface Profile of the Antarctic Along the Line Mirnyy - South Pole -
MacMurdo - Mirnyy

km/h: Altimeter readings were corrected by temperature readings, according to the standard formula which has been nomographed by the members of the expedition. Also, horizontal baric gradient was taken into account. The flight was started on 24 Oct 1958 and finished on 26 Oct/58. The aircraft IL-12 was commanded by V.M. Perov and piloted by B.S. Brod-kin. The route was: Mirnyy, Sovetskaya, South Pole, Birdmoore, MacMurdo, Mirnyy. Then the entire route is described as far as the profile of the ground is concerned. The differences between old readings and new Soviet measurements range between 17 and 150 m of greater height. Altogether, 109 (Mirnyy - South Pole), plus 18 (South Pole - Birdmoore), plus 82 (MacMurdo - Mirnyy) heights were measured and listed in the article. Also, schematic graphs of the heights are drafted. A depression falling below sea level was detected on the route between Mirnyy and Sovetskaya. The South Pole (a Soviet station is installed there) is said to lie about 20 or 30 m higher than American expeditions had estab-

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SOV/10-59-3-9/32

The Surface Profile of the Antarctic Along the Line Mirnyy - South Pole -
MacMurdo - Mirnyy

lished. There are 3 references, 2 of which are Soviet, and
1 American, 1 chart, 3 graphs and 3 tables.

ASSOCIATION: 3-ya Kontinental'naya antarkticheskaya ekspeditsiya AN SSSR
(the 3rd Continental Antarctic Expedition of the AS USSR),
Mirnyy.

Card 3/3

BUGAYEV, V.A., prof.; TOLSTIKOV, Ye.I., kand. geograf. nauk

Profile of the Antarctic slope between 100° and 105° E.

Inform. biul. Sov. antark. eksp. no.4:9-14 '59.

(MIRA 12:11)

1. Tsentral'naya aerologicheskaya observatoriya i glavnoye uprav-
leniye Severnogo morskogo puti.

(Antarctic regions--Altitudes)

3(4)

AUTHORS: Bugayev, V.A., and Tolstikov, Ye.I.

SOV/26-59-4-14/43

TITLE: Flights Over Antarctica (Polety nad Antarktidoy)

PERIODICAL: Priroda, 1959, Nr 4, pp 55-70 (USSR)

ABSTRACT: Various remarkable flights over the Antarctic have been carried out by participants of the 3rd Joint Antarctic Expedition organized by the Akademiya nauk SSSR (AS USSR). In this article the authors describe such a flight, a visit to the Australian Antarctic Station Mowson ("Mouson") 67°36' southern latitude, 62°53' eastern longitude. The plane started from Mirnyy along the coast and returned via the inland mountainous region south of the Olaf-Truds Bay. The authors give a detailed description of the Australian Polar Station and its work. Furthermore, on their way back from Mowson, participants of the Expedition checked data on heights and depres-

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Flights Over Antarctica

SOV/26-59-4-14/43

sions of the inland mountainous region and other natural phenomena, explored in December 1957 by Ye. I. Tolstikov, G.I. Golyshev, V.K. Boborykin and in 1958 by V.A. Bugayev, Kh.Ya. Zakiyev. There are 1 map and 1 graph.

Card 2/2

:(

SOV/25-59-7-22/53

AUTHOR: Tolstikov, Ye. I., Hero of the Soviet Union, Chief

TITLE: In the Country of Icy Silence

PERIODICAL: Nauka i zhizn', 1959, Nr 7, pp 59-63 (USSR)

ABSTRACT: After having briefly summarized the 2 previous expeditions, the author gives an account on the III Antarctic Expedition which landed aboard the expeditionary ships "Ob'" and "Kooperatsiya" at the land floe near the "Mirnyy" station on 18 November and 22 December, 1957, respectively. The expedition's greatest achievements were the establishment of new research stations, the "Sovetskaya" and "Polyus nedostupnosti" (Pole of Relative Inaccessibility), as well as comprehensive aerial surveying, observations on ice and weather, actinometric studies, and those on atmospheric electricity. The above stations were reached by heavy-duty tractors and cross-country vehicles with sleds attached. It took 69 days

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In the Country of Icy Silence

to cover a 4,000 km route across a tundra-like terrain to reach the "Sovetskaya" station, with winds blowing at 30-40 m/sec and temperatures as low as minus 60-65°C (the lowest temperature ever measured there was minus 87.4°C). The expedition's aircraft gathered valuable data on geodesy and other fields. The article mentions the following personalities: N.M. Somov, A.F. Treshnikov, Candidate of Technical Sciences A.F. Nikolayev, V.K. Babarykin, V.S. Sidorov, M.A. Fokin, Navigators Avsyuk and Baydala, Pilots Ivanov, N.A. Shkol'nikov, and V.M. Perov, Meteorologist P.D. Astapenko, and Czech geophysicist A. Mkros. There are 1 sketch, 3 vignettes, and 4 photographs.

ASSOCIATION: III antarkticheskaya ekspeditsiya (III Antarctic Expedition).

Card 2/2

TOLSTIKOV, Ye.I., kand.geograf.nauk

Air masses in the Mirnyy region. Inform.biol.Sov.antark.eksp.
no.11:22-28 '59. (MIRA 13:5)

1. Nachal'nik Tret'yey kontinental'noy ekspeditsii.
(Mirnyy region, Antarctica--Meteorology--Observations)

TOLSTIKOV, Ye.

Preliminary results of the work performed by the Third
Antarctic Expedition. Mor.flot 19 no.11:20-22 N '59.
(MIRA 13:3)

1. Nachal'nik tret'yey sovetskoy Antarkticheskoy ekspeditsii.
(Antarctic regions)

30(6)

S/026/60/000/04/009/070
D048/D006

AUTHOR: Tolstikov, Ye.I.

TITLE: Lenin's Plan for Conquering Arctica

PERIODICAL: Priroda, 1960, Nr 4, pp 25 - 27 (USSR)

ABSTRACT: The article contains historical data on the Soviet advance into the Arctic territory from the time of Lenin's Arctica conquest plan to the launching and operation of the ice-breaker "Lenin". There are 2 photographs, and 1 Soviet reference. ✓

Card 1/1

BUGAYEV, V.A., prof.; TOLSTIKOV, Ye.I., kand.geograf.nauk

Basic features of the relief of eastern Antarctica. Inform. biul.
Sov. antark. eksp. no.16:11-15 '60. (MIRA 13:12)

1. Tsentral'nyy institut prognozov i Glavnoye upravleniye Severnogo
morskogo puti.

(Antarctic regions--Altitudes)

TOLSTIKOV, Ye.I., kand.geograf.nauk

Air masses over central regions of eastern Antarctica. Inform. biul.
Sov. antark. eksp. no.19:21-25 '60. (MIRA 13:9)

1. Nachal'nik Tret'yey kontinental'noy ekspeditsii.
(Antarctic regions--Meteorology)

TOLSTIKOV, Ye.I., kand.geogr.nauk., Geroy Sovetskogo Soyuza

Where the meridians converge. Nauka i zhizn' 27 no.2:
25, 58 F '60. (MIRA 13:6)
(Antarctic regions)

TOLSTIKOV, Ye., Geroy Sovetskogo Soyuza

In the land of white bears. Starsh.-serzh. no.2:26 P '61.

(Arctic regions--Drifting ice stations) (MIRA 14:7)

TOLSTIKOV, Ye., Geory Sovetskogo Soyuza

Northern sea route will become the route for large-scale transportation. Mor. flot 21 no.10:13-15 0 '61. (MIRA 14:9)

1. Zamestitel' nachal'nika Glavnogo severnogo morskogo puti.
(Northeast passage) (Shipping)

TOISTIKOV, Ye., Geroy Sovetskogo Soyuza

South geographical pole; on the 50th anniversary of its discovery.

Mor. flot 21 no.12:40-41 D '61. (MIRA 14:12)

(Antarctic regions--Russian explorations)

LEBEDEV, Vladimir L'vovich, kand. geogr. nauk; OSTREKIN, Mikhail
Yemel'yanovich, kand. geogr. nauk, red.; ~~TOLSTIKOV, Yevgeniy~~
Ivanovich, kand. geogr. nauk, red.; KAPLINSKAYA, L.G., red.;
~~KOTLYAKOVA, O.I., tekhn. red.~~

[Transactions of the Soviet Antarctic Expedition]Trudy Sovet-
skoy antarkticheskoy ekspeditsii]Leningrad, Izd-vo "Morskoi
transport." Vol.16.[Third continental expedition, 1957-1959;
general description and scientific results]Tret'ia kontinen-
tal'naia ekspeditsiia, 1957-1959 gg; obshchee opisaniie i
nauchnye rezul'taty. Pod red. M.E.Ostrekina i E.I.Tolstiko-
va. 1962. 327 p. (MIRA 15:9)

1. Sovetskaya antarkticheskaya ekspeditsiya, 1955-. 2. Nachal'-
nik Tret'yey kontinental'noy ekspeditsii, 1955- (for Tolstikov).
(Antarctic regions--Geophysical research)

TOLSTIKOV, Yevgeniy Ivanovich [Tolstykov, Ievhen Ivanovych], Geroy Sovetskogo
Soyuza

Conquering the ice regions. Znan. ta pratsia no.1:28 Ja '62.

(MIRA 15:1)

1. Zamestitel' nachal'nika Glavnogo upravleniya Severnogo Morskogo
puti.

(Arctic regions)

L 12888-63
PT-2/GW

EW(1)/BDS/ES(v)

AFPTC/ASD/ESD-3/APGC

Pe-4/P1-4/Po-4

ACCESSION NR: AP3001621

S/0030/63/000/005/0079/0032

AUTHOR: Tolstikov, Ye. I. (Candidate of Geographical Sciences)

73

TITLE: Work in Antarctica

SOURCE: AN SSSR. Vestnik, no. 5, 1963, 79-82

TOPIC TAGS: geomagnetism, aurora borealis, night glow, ionosphere, solar activity, cosmic rays

ABSTRACT: The Soviet Union will undertake extensive work at its permanent stations in Antarctica during the coming Year of the Quiet Sun. This will involve studies in and observations of geomagnetism, the aurora borealis, night glow, the ionosphere, solar activity, cosmic rays, and the cosmos itself. Among the many valuable observations anticipated are those on the southern magnetic pole, the two circular zones of highly intense polar light, and electromagnetic manifestations elsewhere on the earth. Further observations will facilitate preparation of maps of the ionosphere, will afford data on the ways in which the Antarctic atmosphere affects the rest of the earth's atmosphere, and will assist meteorologists in making more accurate weather forecasts. The Soviet Union will co-operate with other interested countries in obtaining and sharing the information acquired.

Cord 1/2/

BUGAYEV, V.A., doktor geogr. nauk, otv. red.; TOLSTIKOV, Ye.I.,
kand. geogr. nauk, otv. red.; ZHITNIKOVA, S.A., red.;
GUS'KOVA, G.M., tekhn. red.

[Collected articles] Sbornik statei. Moskva, Izd-vo AN
SSSR. No.5.[Meteorological research] Meteorologicheskie
issledovaniia. 1963. 106 p. No.6. [Research on the
climatology of noctilucent clouds] Issledovaniia po kli-
matologii serebristyykh oblakov. 1963. 83 p.

(MIRA 16:10)

1. Akademiya nauk SSSR. Mezhdunarodnyy komitet po
provedeniyu Mezhdunarodnogo geofizicheskogo goda. II raz-
del programmy MCG: Meteorologiya.

(Clouds)

BELOUSOV, V.V.; SILKIN, B.I.; TOLSTIKOV, Ye.I., kand. geograf. nauk

International Year of the Quiet Sun. Vest. AN SSSR 33 no.5:
76-82 My '63. (MIRA 16:6)

1. Chlen-korrespondent AN SSSR (for Belousov).
(Sun)

POPOVA, N.M.; SOKOL'SKIY, D.V.; TOLSTIKOVA, I.F.

Hydrogen sorption in nickel catalysts. Izv. AN Kazakh. SSR.
Ser. khim. nauk 14 no.1:60-68 Ja-Mr '64. (MIRA 18:3)

TOISTIFIN, G.A.; GASTALIN, A.I.; TORMALOVA, L.F.; KIM KHA OU

~~Preparation of pyrazoles of glyoxylic and -lactic acids.~~
Zhur. ob. Khim. 4, no.9:3133-3134, 1964.

(MIRA 17:11)

I. Institut khimicheskikh nauk AN Kazakhskoy SSR, laboratorii
v g. Chimkentse.

TUR'YAN, Ya.I.; SMIRNOVA, G.A.; TOLSTIKOVA, O.A.

Polarographic kinetic currents of nicotinic acid. *Elektrokhimiya* 1
no.8:922-927 Ag '65. (MIRA 18:9)

1. Institut monomerov dlya sinteticheskogo kauchuka.

Circuits & Circuit Elements

W.E.

2478
 The Application of Coupled Systems with Distributed Constants to Frequency Modulation in the Ultra-High-Frequency Range. V. A. Likhov. *Radiotekhnika i Elektronika*, No. 2, pp. 69-71, 1957. Much work has been done in the USSR in the field of frequency multiplication even for sound broadcasting and it is doubtful whether these methods can be used at higher frequencies. Experiment results were therefore conducted to show the effect of a secondary system with distributed constants on the frequency and amplitude of oscillations in a self-excited system with distributed constants (Fig. 1). These experiments are discussed. It is possible in principle to obtain direct modulation of the carrier of sufficient depth without using frequency multiplication.

1949

CHERNYSHEV, Ye.A.; TOLSTIKOVA, N.G.

Synthesis of silicon-containing aromatic acids and amines. Zhur.
ob. khim. 30 no.12:4058-4060 D '60. (MIRA 13:12)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Silicon organic compounds) (Benzoic acid)
(Aniline)

AUTHORS: Petrov, A. D., Corresponding Member of the AS USSR, Chernyshev, Ye. A., Tolstikova, N. G. 20-118-5-30/59

TITLE: The Synthesis of p-Trialkylsilylstyrenes and p-Trialkylsilylalkylstyrenes (Sintez p-triakilsilil- i p-trialkil-sililalkilstirollov)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 957-959 (USSR)

ABSTRACT: Only 2 patents are devoted to the synthesis and to the investigation of the styrenes substituted in the silicium cycle, without giving a detailed description of this synthesis or mentioning the properties of the obtained products (reference 6, 7). The present paper deals with the methods of synthesis of the styrenes mentioned in the title above. The general scheme of the synthesis is as follows: According to the Grin'yar (Grignard) reaction a corresponding alcohol is produced which is then dehydrated. Thus a silicon-substituted styrene is formed. This reaction was rather successful with p-trimethylsilylphenylmagnesium-bromides, with p-triethylsilylphenylmagnesium-bromides, as well as with

Card 1/3

The Synthesis of p-Trialkylsilylstyrenes and p-Trialkylsilyl-alkylstyrenes 20-118-5-30/59

acetic aldehyde and acetone. From these the corresponding alcohols were formed with a yield of 40 - 60%. These were dehydrated above Al_2O_3 at 340 - 350°C in a vacuum of 150 - 160 torr. A partial polymerization of the produced styrene took place. The styrene yield was 30 - 50%. Benzyltrichloro-silane was brominated with bromine in presence of Fe. Only one product was formed. It concerned β -phenylethyltrichloro-silane. Both substances were subjected to a spectral analysis after previous ethylation. The spectra were similar and contained only 2 bands (1775 and 1880 cm^{-1}) which is characteristic of paraisomers (reference 9). From the bromides the corresponding alcohols were obtained by means of the Grin'yar reaction with a yield of only 13%. From the first of these by dehydration above Al_2O_3 a corresponding styrene was formed with a 50% yield. The styrene from the second alcohol was completely polymerized. The bromination and the further reactions are described in details. Table 1 shows the properties of the alcohol. The experimental results can be seen in the same table. Properties and yields of the synthetic styrenes are contained in table 2. There are 2 tables, and 10 references, 6 of which are Soviet.

Card 2/3

The Synthesis of p-Trialkylsilylstyrenes and
p-Trialkylsilylalkylstyrenes

20-112-5-30/59

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo
Akademii nauk SSSR (Institute for Organic Chemistry imeni
N. D. Zelinskiy AS USSR)

SUBMITTED: July 17, 1957

Card 3/3

S/062/60/000/009/007/021
B023/B064


AUTHORS: Chernyshev, Ye. A. and Tolstikova, N. G.
TITLE: Bromination of Some Aromatic Organosilicon Compounds and the Reactivity of the Bromides Obtained
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 9, pp. 1595-1600

TEXT: This is a continuation of previous investigations and a study of the effect of the character of the silyl group (at a gradual exchange of the chlorine atoms in silicon for alkyl radicals) upon the rate and direction of the bromination reaction. A series of compounds $C_6H_5CH_2Si(R)_nCl_{3-n}$ was brominated at $n = 1 \div 3$. It was found that in the bromination of benzyl-ethyl dichloro silane just as in the case of benzyl trichloro silane the paraisomer alone is formed. When benzyl-diethyl chloro silane is brominated, chiefly the paraisomer forms and, to a very little extent, the metaisomer. Finally, in the case of benzyl-trimethyl silane para- and metaisomers form to about the same extent. In the series

Card 1/4

Bromination of Some Aromatic Organosilicon
Compounds and the Reactivity of the Bromides
Obtained


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B023/B064


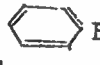
$C_6H_5CH_2Si(C_2H_5)_nCl_{3-n}$ only para isomers form at $n = 0 \div 3$, regardless of the number of chlorine atoms or alkyl radicals bound to silicon. In continuation of the studies of the reactivity, equimolar mixtures of benzyl trichloro silane, benzyl-trimethyl silane, benzyl trichloro silane, β -phenyl-ethyl trimethyl silane were brominated. Benzyl-trimethyl silane was found to be 28 times as active as benzyl trichloro silane, while β -phenyl-ethyl trimethyl silane is only 2.34 times as active. This increased reactivity of benzyl-trimethyl silane is explained by the conjugation of the Si - C bond with the aromatic cycle. Furthermore, the following pairs of compounds were brominated: phenyl trichloro silane and benzene, benzyl trichloro silane and benzene, as well as β -phenyl-ethyl trichloro silane and benzene. In the first case, only benzene was brominated, phenyl trichloro silane remained unchanged. Benzyl trichloro silane was 4.7 times, and β -phenyl-ethyl trichloro silane was 5.8 times more rapidly brominated than benzene. That means, that the reactivity of the series $Cl_3Si(CH_2)_n$  increases gradually with increasing n. Thus, in all cases only the

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Bromination of Some Aromatic Organosilicon
Compounds and the Reactivity of the Bromides
Obtained

S/062/60/000/009/007/02;
B023/B064

induction effect of the trichloro silyl group appears, while the conjugation effect of the Si - C bond with aromatic cycle is completely suppressed in benzyl trichloro silane. The reactivity of the aromatic organosilicon halides $R_3Si(CH_2)_n$  Br at $n = 0 \div 2$ was studied as compared to the action of nucleophilic reagents. Methods of V. N. Ufimtsev and M. M. Malafeyeva (Ref. 6) were applied. Two series of compounds were investi-

gated: $(CH_3)_3Si(CH_2)_n$  Br and $(C_2H_5)_3Si(CH_2)_n$  Br at $n = 0 \div 2$. Table 2 shows the results. It was found that in the case of the aromatic bromides, α -bromides ($n = 0$) have a higher reactivity than β -bromides ($n = 2$). β -bromides ($n = 1$) were least active. Thus, the existence of the conjugation effect of the Si - C bond with the aromatic cycle is confirmed in these compounds. If there were only the induction effect of the trialkyl-silyl group, the reactivity would have to decrease gradually: $\alpha > \beta > \gamma$. The authors thank Yu. P. Yegorov and I. Lifanova, who carried out the spectral analysis. There are 2 tables and 7 references: 6 Soviet and

Card 3/4

Bromination of Some Aromatic Organosilicon
Compounds and the Reactivity of the Bromides
Obtained

S/062/60/000/009/007/021
B023/B064

1 British.

ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelinskogo Akademii
nauk SSSR (Institute of Organic Chemistry imeni N. D.
Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: March 13, 1959

Card 4/4

TOLSTIKOVA, N.G.

5.3700

AUTHORS:

Balandin, A. A., Petrov, A. D., Muraviev, G. M.,
Gerasimov, A. I., and Tolstikova, N. G.,
Tolstikova, N. G., Tolstikova, N. G.

TITLE:

Synthesis of Alkylated Aromatic Sulfides and Their
Derivatives

PERIODICAL:

Zhurnal obshchei khimii, 1960, Vol. 30, No. 1, p. 87-
91 (USSR)

ABSTRACT:

Catalytic dehydrogenation of isobutylene over a nickel
oxide catalyst (A) at 600°C. in the presence of steam
yields divinylbenzene and ethylvinylbenzene in 100% yield.
Reaction of isobutylene with ethylvinylbenzene in the pres-
ence of catalyst (A) at 600°C. yields 1,2-dimethyl-4-ethyl-
styrene (B). Reaction of isobutylene with ethylvinylbenzene
(B) at 600°C. yields 1,2-dimethyl-4-ethylstyrene (C).
(40%). 1 ml of 0.1 N H₂SO₄ in 100 ml of alcohol is
added with stirring, followed by addition of 100 ml of
methylchlorosulfate. The mixture is stirred at 60°C. for
to 60 for 2 hours. Distillation of the mixture yields
two fractions. The first fraction is 1,2-dimethyl-4-ethyl-
styrene (C), mp 100°C. The second fraction is 1,2-dimethyl-
4-ethylstyrene (D), mp 100°C.

Card 1/4

ASSOCIATION: N. D. Zelinskii Institute of Organic Chemistry of the
Academy of Sciences of the USSR (Institut organicheskoy
khimii imeni N. D. Zelinskogo AN SSSR)

SUBMITTED:

January 21, 1959

Card 2/4

5.3700

2900.1164, 1273

20940

S/062/61/000/003/006/013
B117/B208

AUTHORS: Yegorov, Yu. P., Leytes, L. A., Tolstikova, N. G.,
Chernyshev, Ye. A.

TITLE: Spectroscopic investigation of the effect of the silicon atom
on multiple bonds in molecules of organosilicon compounds

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh
nauk, no. 3, 1961, 445-454

TEXT: The present paper continues a previous study (Ref. 1: A. D. Petrov,
Yu. P. Yegorov, V. F. Mironov, G. I. Nikishin, A. A. Bugorkova, Izv.
AN SSSR. Otd. khim. n. 1956, 50; Ref. 2: Yu. P. Yegorov, Ye. A. Chernyshev,
Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, Izv. L'vovskogo
gos. un-ta t. 1, 1957, str. 390) on physical and chemical properties of
organosilicon compounds with multiple bonds in different positions to the
silicon atom. In particular, some para-substituted benzene derivatives
with β and γ positions of the silicon atom to the aromatic ring were
studied. The Raman spectra of the following compounds were taken:

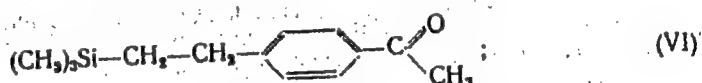
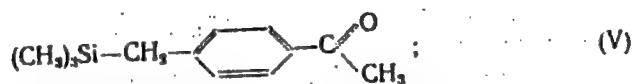
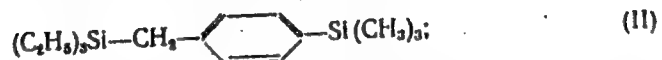
Card 1/6

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IX

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B117/B208

Spectroscopic investigation of the...

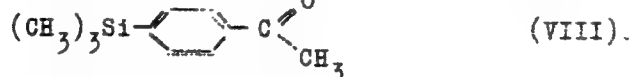
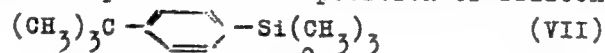


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Spectroscopic investigation of the...

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S/062/61/000/003/006/013
B117/B208

Furthermore, the ultrared spectra were taken of compounds (I), (III), (V), (VI), as well as of compounds with α -position of silicon to the ring



p-trimethyl-silyl-tert-butyl benzene was obtained from p-chloro-tert-butyl benzene and trimethyl chloro silane by the reaction of Würtz-Fittig, and p-tri-methyl-silyl-triethyl- β -phenyl-ethyl silane by the Grignard reaction. All other silicon hydrocarbons were also prepared in tetrahydrofuran under the same conditions. Properties and yields of the resultant compounds are given in Table 5. Silicon-containing aromatic ketones were obtained by a method described in Ref. 19 (Ye. A. Chernyshev, E. N. Klyukina, A. D. Petrov, Izv. AN SSSR. Otd. khim. n. 1960, 1601). The Raman spectra were taken with an MCR-51 (ISP-51) device. The line intensity in the maximum was measured photometrically with a cyclohexane scale and by the method of the internal standard (CCl_4 was used as internal standard). An anomalous reactivity, as compared to compounds with α and

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B117/B208

Spectroscopic investigation of the...

positions of the silicon atom, was observed in compounds with β -position of the silicon atom to the ring. The intensity of the lines assigned to symmetric vibrations of the system $\rightarrow \text{Si} - \text{C} - \text{C}_6\text{H}_4 - \text{X}$ in the Raman spectrum increases. In ultraviolet spectra recorded with an CF_4 (SF-4) spectrophotometer, an increase in intensity and a bathochromic band shift is observable. The exaltation of MR_D (molecular refraction) increases. In systems $\rightarrow \text{Si} - \text{C} - \text{C} = \text{C}$ and $\rightarrow \text{Si} - \text{C} - \text{C}_6\text{H}_4 - \text{X}$, a specific mutual influence between the multiple bonds or the aromatic ring and the complicated electron shell of the silicon atom in the valence state occurs. This effect is possibly enhanced by the steric configuration of the system $\text{Si} - \text{C} - \text{C} - \text{X}$. As may be seen from the models by Stuart and Brigleb,
 $\begin{matrix} 1 & 2 & 3 & 4 \end{matrix}$
a structure is possible in these systems with the atoms 1 and 4 located so closely that van der Waal's radii overlap each other. Conclusions on this effect in compounds of different series may be drawn only after further studies of the line intensities and chemical properties. Mention is made of Ye. A. Chernyshev, M. Ye. Dolgaya, A. D. Petrov, V. M. Tatevskiy, P. P. Shorygin, B. A. Kazanskiy, V. T. Aleksanyan. There are 2 figures, 5 tables, and 19 references: 14 Soviet-bloc and 5 non-Soviet-bloc.

Card 4/6

Spectroscopic investigation of the...

S/062/61/000/003/006/013
B117/B208

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo
Akademii nauk SSSR (Institute of Organic Chemistry imeni
N. D. Zelinskiy, Academy of Sciences USSR)

SUBMITTED: December 1, 1959

a	(a) Соединение	Выход, %	Т. кип., °C	n_D^{20}	d_4^{20}
		б (б)	(мм рт. ст.) с (с)		
	$(CH_3)_3Si-CH_2-\text{C}_6H_4-Si(CH_3)_3$	84	85-86 (4)	1,4911	0,8681
	$(CH_3)_3Si-CH_2-CH_2-\text{C}_6H_4-Si(CH_3)_3$	80	110-112 (5)	1,4788	0,8668
	$(C_2H_5)_3Si-CH_2-\text{C}_6H_4-Si(CH_3)_3$	71	130-132 (6)	1,4990	0,8842
	$(C_2H_5)_3Si-CH_2-CH_2-\text{C}_6H_4-Si(CH_3)_3$	78	139 (3)	1,4039	0,8877

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Table 5

S/062/61/000/003/007/013
B117/B208

AUTHORS: Chernyshev, Ye. A. and Tolstikova, N. G.
TITLE: Hammett constants of some trialkyl silyl alkyl groups
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh
nauk, no. 3, 1961, 455-459

TEXT: The authors characterized quantitatively the nature of some tri-alkyl silyl alkyl groups by means of their Hammett constants σ and σ^+ . To calculate these constants, the dissociation constants of a number of p-trialkyl silyl alkyl-substituted derivatives of aromatic acids, and the ionization constants of analogous amines were determined. The method of obtaining para-substituted silicon-containing benzoic acids and anilines has been previously described (Ref. 21: Ye. A. Chernyshev, N. G. Tolstikova, Zh. obshch. khimii 31, 1961). The apparent dissociation constants were determined by potentiometric titration at $25.0 \pm 0.1^\circ\text{C}$. Hydrogen ion concentration was measured with glass and calomel electrodes (with a saturated KCl solution) on an MN-5 (LP-5) tube potentiometer. The calculated constants σ and σ^+ of a number of $\text{R}_3\text{Si}(\text{CH}_2)_n$ groups are presented in

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S/062/61/000/003/007/013
B117/B208

Hammett constants of some...

Table 3. This table also gives the Hammett constants of $(CH_3)_3Si-$, $(C_2H_5)_3Si-$, $(C_6H_5)_3Si-$ groups taken from publications or calculated from them. These data substantiate the specific effect of the silyl group on the aromatic ring in β -position to the silicon atom. The decisive effect of the character of the remaining three atoms or radicals bound to the silicon atom on the intensity of this effect and the specific behavior of β -functional organosilicon compounds, which are known by the collective term " β -effect", indicate the following: One of the principal causes of σ - σ - or σ - π conjugation is the steric factor of the positions of silicon and X-atom of the system $\underset{1}{Si}-\underset{2}{C}-\underset{3}{C}-\underset{4}{X}$. Considering the models by Stuart and Brigleb for several organosilicon compounds, it may be concluded that the silicon atom greatly affects the bonds being in β -4 position to it by its electron shell. These bonds are considerably polarized, which causes their anomalous reactivity with respect to the neighboring homologs. There are 5 tables and 21 references: 9 Soviet-bloc and 12 non-Soviet-bloc. The 2 references to English-language publications read as follows: L. Hammett, Physical Organic Chemistry, N. Y., 1941; H. H. Jaffe, Chem.

Card 2/4

Hammett constants of some...

S/062/61/000/003/007/013
B117/B208

Rev. 53, 191, 1953.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR)

SUBMITTED: January 6, 1960

Table 3: Hammett constants of some silyl groups. Legend: a) consecutive numbers; b) silyl group; c) σ^-_{para} ; d) σ^-_{meta} ; e) σ^+_{para} ; f) σ^+_{meta} ;

g) Refs.: The references to English language publications read as follows: Ref. 12: J. Chatt, A. A. Williams, J. Chem. Soc. 1954, 4403; Ref. 13: R. A. Benkeser, H. R. Krysiak, J. Amer. Chem. Soc. 75, 2421, 1953; Ref. 18: J. D. Roberts, C. M. Regan, J. Amer. Chem. Soc. 75, 4102, 1953; Ref. 19: R. A. Benkeser, C. E. deBoer, R. E. Robinson, D. M. Sauve, J. Amer. Chem. Soc. 78, 682, 1956; Ref. 20: G. Eaborn, S. H. Parker, J. Chem. Soc. 1954, 939. The Hammett constants indicated by an asterisk were determined by the authors of this paper.

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30165

S/062/61/000/012/004/012
B118/B147

53700

AUTHORS:

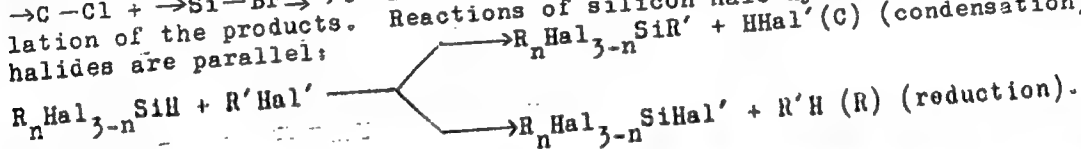
Chernyshev, Ye. A., Tolstikova, N. G., and Bugerenko, Ye. F.

TITLE:

Interaction of silicon bromo- and silicon chloro-hydrides with some organobromides and alkyl chloro benzenes in the gaseous phase

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 12, 1961, 2173 - 2178

TEXT: Based on a paper by A. D. Petrov, Ye. A. Chernyshev, and Li Kuang-liang (Dokl. AN SSSR, 137, 876 (1961)), the authors studied the reaction of tribromosilane with bromo benzene, α -bromo naphthalene, and allyl bromide. Instead of aryl chlorides they used aryl bromides as aromatic reaction component to avoid the conversion $\rightarrow C-Cl + \rightarrow Si-Br \rightleftharpoons C-Br + \rightarrow Si-Cl$ which would involve difficult isolation of the products. Reactions of silicon halo-hydrides and organohalides are parallel:



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B118/B147

Interaction of silicon...

The aim of the present study was the determination of the ratio C/R. Replacement of chlorine atoms by bromine in silicon halo-hydride was found to support the condensation reaction. Besides electronegativity, the steric factor (volume) of atoms or groups bound to Si in silicon hydride, and possibly also the structure of their electron shells, have an effect upon the ratio C/R. At 580°C and 30 sec contact with chloro benzene, HSiCl_3 yields 70 - 75% of the final product, whereas HSiBr_3 yields 98 - 99%. A 60% yield of α -naphthyl tribromosilane is obtained by reaction between $\alpha\text{-C}_{10}\text{H}_7\text{Br}$ and HSiBr_3 . The yields of phenyl and allyl tribromosilanes were only 17.5 and 12.5%, respectively. The authors also converted trichloro silane and methyl-dichloro silane with chlorotoluenes, chloro-ethyl benzenes, chloro-isopropyl benzenes, and p-chloro-tert-butyl benzene in the gaseous phase at high temperature. The syntheses of tolyl-, ethyl-, phenyl-, and isopropyl-phenyl chloro silanes at high temperature (600°C) and in the gaseous phase were compared with the known conversions of silicon chloro-hydrides with alkyl benzenes or alkyl chloro benzenes in the liquid phase. In all cases of this comparison, the ratios of ortho-isomers, meta-isomers and para-isomers of alkyl phenyl-trichloro silanes

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Interaction of silicon...

S/062/61/000/012/004/012
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and alkyl phenyl methyl-dichloro silanes, according to Raman-spectrum analytical data, were almost the same as those of the initial alkyl chloro benzenes. In Table 2, the reaction of silicon hydrides with aryl chlorides in the gaseous phase is compared with that of silicon hydrides with alkyl benzenes in the liquid phase. A considerable residue which, according to elementary analysis, contains silicon and hydrolyzable chlorine besides carbon and hydrogen, is obtained on interaction of silicon hydrides and alkyl chloro benzenes in the gaseous phase at a temperature above 600 - 620°C. The authors thank L. A. Leytes for his spectrum analysis. There are 3 tables and 10 references: 8 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: A. Barry, I. W. Gilkey, D. E. Hook, Industr. and Engen. Chem. 51, 91 (1959).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: June 22, 1961

Card 3/0 5

S/079/62/032/002/001/011
D204/D303

AUTHORS: Chernyshev, Ye., A; Tolstikova, N.G., Ioffe, S.L. and Petrov, A.D.

TITLE: Interaction of disilanes with chlorobenzene in the vapor phase

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 2, 1962, 369-374

TEXT: A continuation of earlier work concerned with the preparation of organochlorosilanes. In the present paper the authors describe the reactions of chlorobenzene with hexamethyl -, pentamethyl chloro-, tetramethyl dichloro- and hexachlorodisilanes. The reactions were studied by passing mixtures of PhCl (2 moles) and the corresponding disilane (1 mole) through a silica tube at 500-600°C. The reagents were in the hot zone for 30-35 secs. The products were then condensed and analyzed. Full experimental details are given. The interaction of PhCl with hexamethyl disilane at 500 and 550°C yielded $(\text{CH}_3)_3\text{SiCl}$, C_6H_6 , $(\text{CH}_3)_3\text{Si} \cdot \text{CH}_2 \cdot \text{Si}(\text{CH}_3)_2\text{Cl}$ ✓

Card 1/3

Interaction of disilanes ...

S/079/62/032/002/001/011
D204/D303

and $C_6H_5 \cdot C_6H_5$. Small quantities of $Cl(CH_3)_2Si \cdot CH_2 \cdot Si(CH_3)_2Cl$ and $(CH_3)_3SiC_6H_5$ were also formed at $600^\circ C$. The reaction with pentamethyl chloro-disilane gave $(CH_3)_3SiCl$, $(CH_3)_2SiCl_2$, C_6H_6 , $Cl(CH_3)_2Si \cdot CH_2 \cdot Si(CH_3)_2Cl$, $Cl(CH_3)_2Si \cdot CH_2Si(CH_3)Cl_2$, $(CH_3)_3SiC_6H_5$, $Cl(CH_3)_2SiC_6H_5$ and $C_6H_5 \cdot C_6H_5$. No thermal rearrangement of pentamethyl chloro-disilane was observed, in contrast to the hexamethyl disilane. The action of $PhCl$ on tetra methyl dichlorodisilane (at $600^\circ C$ only) resulted in $(CH_3)_2SiCl_2$, C_6H_6 , $Cl(CH_3)_2Si \cdot CH_2 \cdot Si(CH_3)Cl_2$, $Cl(CH_3)_2SiC_6H_5$ and $C_6H_5 \cdot C_6H_5$. In addition to the above listed compounds, high-boiling residues were formed in the 3 cases. The nature of the products obtained is discussed and it is concluded that these reactions proceed by a free radical chain mechanism. The interactions begin with a displacement of an H-atom in the disilane by a silyl or a phenyl radical, followed by rearrangement of $\begin{matrix} \cdot Si-CH_2-Si \\ \cdot Si-Si-CH_2 \end{matrix}$ into $\begin{matrix} \cdot Si-CH_2-Si \\ \cdot Si-Si-CH_2 \end{matrix}$. The interaction, at $580^\circ C$, of $PhCl$ with

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Interaction of disilanes ...

S/079/62/032/002/001/011
D204/D303

hexachlorodisilane gave SiCl_4 , $\text{C}_6\text{H}_5\text{SiCl}_3$ and a high-boiling residue. This reaction is also thought to proceed by a radical mechanism. The preparation of hexamethyl - and hexachlorodisilanes is described. The other 2 disilanes were prepared from the hexamethyl disilane by the method of Kumada et al (Ref. 6: J. Org. Chem. 21, 1264 (1956)). L.A. Leytes helped the authors with spectral analysis of the products. There are 5 tables and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: K.Shina and M.Kumada, J.Org.Ch., 23, 139 (1958); M.Kumada, M.Jamaguchi, J.Jamamoto, J. Nakajima and K. Shina, ibid., 21, 1264, (1956); H.P. Brown and C.W.A. Fowles, J.Chem. Soc., 1958, 2811; M.Kumada, J.Nakajima, M.Ichikawa and J. Jamamoto, J.Org. Ch., 23, 292, (1958).

ASSOCIATION: Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry im.N.D.Zelinskiy of the Academy of Sciences, USSR)

SUBMITTED: February 6, 1961

Card 3/3

CHERNYSHEV, Ye.A.; TOLSTIKOVA, N.G.; IVASHENKO, A.A.; ZELENETSKAYA, A.A.;
LEYTES, L.A.

Structure of the pentamethyldisilyl group in organosilicon compounds.
AN SSSR. Otd.khim. nauk no.4:664-666 Ap '63. (MIRA 16:3)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Silyl group) (Silicon organic compounds)

ACC NR: AP7005631 (111) SOURCE CODE: UR/0413/67/000/002/0088/0088

INVENTOR: Galashina, M. L. ; Matveyeva, G. A. ; Sobolevskiy, M. V. ; Chernyshev, Ye. A. ; Tolstikova, N. G.

ORG: none

TITLE: Method of preparing polymethylthienylsiloxanes. Class 39, No. 190571

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 88

TOPIC TAGS: siloxane, alkylchlorosilane, thienylsiloxane, trimethylchlorosilane, polycondensation, hydrolytic polycondensation

ABSTRACT: An Author Certificate has been issued for a method of obtaining polymethylthienylsiloxanes by hydrolytic polycondensation of dimethyldichlorosilane, trimethylchlorosilane, and thienyl- substituted alkylchlorosilane. To increase the thermal stability of the obtained polymethylthienylsiloxanes, bis(dimethylchlorosilyl) thiophene is used as the thienyl-substituted alkylchlorosilane. [Translation] [NT]

SUB CODE: 11/SUBM DATE: 05May65/

Card 1/1

UDC: 678.84:547.732

CHERNYSHEV, Ye.A.; TOLSTIKOVA, N.G.

Interaction of chlorosilicon hydrides with thiophene and its chloro derivatives in the gas phase. Izv.AN SSSR.Ser.khim. no.9:1700-1703 S '64.
(MIRA 17:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

CHERNYSHEV, Ye.A.; TOISTIKOVA, N.G.

Synthesis of 1,1-dichloro-1-silaacenaphthene. Izv. AN SSSR.
Otd.khim.nauk no.6:1146 Je '63. (MIRA 16:7)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.
(Acenaphthene) (Silicon organic compounds)

YEGOROV, Yu.P.; KIREY, G.G.; SAMOYLENKO, S.A.; CHERNYSHEV, Ye.A.;
TOLSTIKOVA, N.G.

Infrared spectra of unsaturated organosilicon compounds with
a pentamethyldisilyl group. Izv. AN SSSR. Otd. khim. nauk no. 3:
569-571 Mr '63. (MIRA 16:4)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Silicon organic compounds—Absorption spectra)
(Unsaturated compounds)

CHERNYSHEV, Ye.A.; TOLSTIKOVA, N.G.

Interaction of chlorosilanes with alkylbenzenes and α - and β -chlorostyrenes in the gas phase. Izv.AN SSSR.Otd.khim.nauk
no.7:1223-1228 J1 '62. (MIRA 15:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Silane) (Benzene) (Styrene)

CHERNYSHEV, Ye.A.; TOLSTIKOVA, N.G.; IOFFE, S.L.; PETROV, A.D.

Interaction of disilanes and chlorobenzene in the gaseous
phase. Zhur.ob.khim. 32 no.2:369-374 F '62. (MIRA 15:2)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo
AN SSSR.

(Disilane)

(Benzene)

S/062/62/000/007/005/013
B117/B180

AUTHORS: Chernyshev, Ye. A., and Tolstikova, N. G.
TITLE: Reaction of chlorosilanes with alkyl benzenes and α - and β -chlorostyrenes in the gas phase
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 7, 1962, 1223 - 1228

TEXT: The authors examined the assumption that the reaction of chlorosilanes with alkyl chlorobenzenes above 650°C takes place not only via the C-Cl bond of the latter, but also via C-H and C-C bonds. Using the reaction of trichlorosilane with alkyl benzenes (toluene; p-, m-, o-xylene, diphenyl methane, and ethyl benzene). It was found that the aromatic hydrocarbons mainly react via the C_{aryl}-C_{alkyl} bond. This reaction, in which the alkyl radical is substituted by trichlorosilyl groups, may pass through an intermediary stage of the π -complex, thus representing a new kind of homolytic substitution in the aromatic series. The formation of α - and β -trichlorostyrene (yields up to 60 - 75%) during the reaction of trichlorosilane with ethyl benzene was demonstrated by high-temperature

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Reaction of chlorosilanes with...

S/062/62/000/007/005/013
B117/B180

condensation. The high efficiency of high-temperature condensation was also confirmed by high yields (50 - 60%) of the reaction of α - and β -chloro chlorostyrene with methyl dichlorosilane.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: February 2, 1962

Card 2/2

TOLSTIKOVA, Nadezhda Vasil'yevna; KOROBKOV, I.A., doktor geol.-
miner. nauk, otv. red.

[Mollusks of the Alay and Turkestan formations of the
Badkhyz] Molliuski alaiskikh i turkestarskikh sloev
Badkhyza. Moskva, Izd-vo "Nauka," 1964. 121 p.
(MIRA 17:8)

TOLSTIKOVA, N.V.

Paleontologic character of Alay sediments of Mt. Badkhyz. Trudy
VSEGEI 42:211-217 '60. (MIRA 14:9)
(Badkhyz, Mount--Mollusks, Fossil)

22676

1.1800 also 4016, 1087

S/200/61/000/001/002/005
D223/D305

AUTHORS: Chernyak, S. S., Tolstikova, Ye. A., and Kuznetsov, R.A.

TITLE: Increase in resistance to wear of steels and cast irons
by the method of electrolytical sulphidation

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya,
no. 1, 1961, 25-30

TEXT: The sulphidation processing of metallic surfaces is widely used in order to increase the resistance to wear and "gripping" ability of machine parts and cutting tools. In a previous work S. S. Chernyak and R. A. Kuznetsov (Ref. 1: Issledovaniye metodov sul'fidirovaniya dlya uprochneniya rezhushchego instrumenta i detaley mashin (Investigation of Sulphidation Methods for Hardening Cutting Tools and Machine Parts), TsBNTI, TsNIITMASH, M, 1959) give the results of work on the chemical-thermal sulphidation of cutting tools and the experimental data on the structure of sulphide film on the metal. Chemical-thermal sulphidation although giving satisfactory results in most cases suffers from: 1) Long sulphidation

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S/200/61/000/001/002/005
D223/D305

Increase in resistance...

of parts in salt solution; 2) Need to use costly salts in appreciable quantities and their careful preparation; (dehydration, special feeding conditions etc); 3) Specific conditions of treatment with salt solution. The study of electrolytic sulphidation was principally concerned with the effect of optimum current density and the duration of electrolysis. The effect of these factors on the resistance to wear was compared to the chemically nickel-treated parts. The sulphur content of sulphided parts, and the anti-scratch properties and microstructure were determined also. Sulphidation was done in an electrolytic bath with a capacity of 4 liters at a temperature of 90 - 98°C. The electrolyte was an aqueous solution of potassium thiocyanide with a concentration of 42.5 g/l or 85% and sodium hyposulphite of 7.5 g/l or 15% strength. The cathode was made of lead sheet and the anode consisted of the sulphided sample. The voltage used varied within the range of 10-12 volts. The investigation confirmed that the electrolytical sulphidation produces a dense and deep (up to 0.3 mm) sulphide layer on the metallic surface. The sulphur concentration is plotted against the distance from the metallic surface by the authors. The microstructure of

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D223/D305

Increase in resistance...

electrolytically sulphided samples was studied after etching by an aqueous solution of acetic acid. The depth of the sulphide layer for the constant current density varies with the time of electrolytical treatment of the samples, examples being given in tabulated form in the article. Microphotography has shown that the structure of electrically formed sulphide layers on the steel and cast iron are identical. The electrolytically sulphided samples were checked for scratching by the method described in Ref. 1 (Op. cit) and results are given in Table 3. Legend: (1) Sample material; (2) Sample No; (3) Sample hardness after heat treatment. Hv.; (4) Condition of sulphidation; (5) Current density I, amp/dm²; (6) Time of processing; (7) Testing time mins.; (8) Results; (9) Modified cast iron; (10) Steel 40; (11) Steel 40X; (12) Not sulphided; (13) Does not scratch; (14) After 10 sec. catastrophic wear; (15) Does not scratch; (16) Negligible markings. As can be seen from Table 3 the samples subjected to electrolytical sulphidation possess increased anti-scratching properties. The frictional wear was tested using friction mixture M1. For steel samples a pressure of 100 kg was used and for cast iron 38 kg. The testing was done in 23 minute periods.

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D223/D305

Increase in resistance...

① Материал образца	② № образца	③ Твердость образца после тер- мич. обра- ботки, НВ	Режим сульфидирования		④ Длитель- ность испытания, мин.	⑤ Результаты
			⑥ плотность тока, А/д.м. ²	⑦ длитель- ность процесса, мин.		
⑧ Чугун модифициро- ванный	117	461	0,5	30	1,5	⑨ задира нет
	104	477	0,5	60	1,5	.
	106	417	0,5	90	1,5	.
	114	241	не сульфидирован.		1,0	⑩ через 10 сек. начался ка- тастрофич. износ
⑪ Сталь 40	101	241	0,5	180	1,5	⑪ задира нет
	15	407	0,5	60	1,5	⑫ задира нет
	5	395	1,0	60	1,5	.
	18	425	1,5	60	1,5	.
⑬ Сталь 40X	35	385	0,5	120	1,15	⑬ задира нет
	36	400	1,0	60	1,25	.
	39	419	1,5	60	1,15	⑭ незначит. риски

Card 4/6

Table 3

22676

Increase in resistance...

S/200/61/000/001/0.02/005
D223/D305

which corresponds to 5000 revolutions of the roller. The products of wear were submitted for chemical analysis and the results are given in Table 4. Legend: (1) Sulphidation conditions; (2) Roller revolutions; (3) Current density a/dm²; (4) Time hours; (5) to 5000; (6) from 5000 to 10000; (7) from 10000 to 15000; (8) Sulphur content %.

тока I , а/дм ²	время, час.	до 5000 (5)	до 10000 (6)	до 15000 (7)
содержание серы, %				
1,5	1,5	2,775	0,488	—
1,0	1,5	0,701	0,061	0,053
0,5	1,5	0,213	0,91	0,061

Card 5/6

Table 4

22676

Increase in resistance...

S/200/61/000/001/002/005
D223/D305

The results obtained indicate the effect of current density on the properties of sulphided samples, i.e. the change from 0.5 to 1.5 amp/dm² affects greatly the wear resistance. The samples treated by chemico-thermal sulphidation, by chemical nickel plating and by gaseous cyanide treatment all show inferior properties compared with the electrolytical sulphidation. Before treatment, samples were degreased by benzene or an alkaline solution, containing 45 g/l NaOH, 95 g/l Na₂CO₃ and 10 g/l of Na₂SiO₃ then rinsed with water and dried. After sulphidation, they were washed with hot water, and then kept in hot oil at 100 - 110°C. After electrolytical sulphidation, the life of various tools tested increased 1.5 - 3 times. There are 4 tables, 5 figures and 3 Soviet-bloc references.

ASSOCIATION: Irkutskiy zavod tyazhelogo mashinostroyeniya (Irkutsk Plant of Heavy Machine Construction)

SUBMITTED: June 27, 1960.

Card 6/6

S/191/60/000/002/010/012
B027/B058

AUTHORS: Koton, M. M., Sivograkova, K. A., Tolstikova, Z. D.,
Yeremina, E. N.

TITLE: Production of Large Scintillometers From Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 2, pp. 48-52

TEXT: The authors developed a method for the production of scintillometers on polystyrene basis with additions of active materials. The apparatus were made either as cylindrical blocks (10 kg weight, 220 mm diameter, 300 mm height) or as a film of a thickness of about 100 μ . After various experiments, the accelerated polymerization at 200°C, i.e., a temperature higher than the hardening temperature of the polymer, proved to be the best method for the manufacture of block-shaped scintillometers. The scintillating film was produced by means of rod presses and hot drawn. The material was composed according to the formula:
styrene(basis)
n-terphenyl (scintillating additions) 2% per weight
related to styrene,

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Production of Large Scintillometers From
Plastics

S/191/60/000/002/010/012
B027/B058

1,4-di-2,5 phenyl oxazolyl benzene 0.02% per weight related to styrene. The polymerization of products of up to 1 kg was carried out in glass molds; steel molds provided with an inner coat of polytetrafluoro ethylene were used for larger devices. Siloxane liquid No. 5 which is stable was used as heat carrier and proved to be satisfactory. The basic condition for the process is a high purity of the styrene which is washed twice or three times with a 5% caustic soda solution after rectification in order to remove hydroquinone. The purification is controlled according to the styrene color. N. V. Fadeyeva, L. A. Klinkovskaya, L. M. Kirichenko, G. S. Smirnov, and A. V. Matveyev participated in the experiments. There are 3 figures and 12 references: 2 Soviet, 1 British, 1 German, 2 Canadian, and 6 US. ✓

Card 2/2

YEZRIYELEV, I.M.; LARIN, N.A.; NEYMARK, O.M.; TOLSTIKOVA, Z.D.

Synthesis of *p*-divinylbenzene. Zhur.ob.khim. 26 no.2:589-591
F '56. (MLRA 9:8)

1. Nauchno-issledovatel'skiy institut polimerizatsionnykh
plastmass.

(Benzene)

KOTOH, M.M.; SIVOGRKOVA, K.A.; TOLSTIKOVA, Z.D.; YEREMINA, Ye.N.

Manufacturing large-size scintillators from plastic
materials. Plast.massy no.2:48-52 '60. (MIRA 13:6)
(Scintillation counters) (Plastics)

L 13366-63 EPF(c)/EWP(j)/BDS/EWT(m)/ES(s)-2 AFFTC/ASD/ESD-3/
 SSD Pr-4/Pc-4/Pt-4 RM/WW
 ACCESSION NR: AP3003300 9/0191/63/000/ 007/0008/0009

AUTHORS: Golubeva, A. V.; Tolstikova, Z. D.; Sivograkova, K. A.;
 Bezborodko, G. L.

79
 76

TITLE: The synthesis and polymerization of styrole derivatives. Synthesis and polymerization of methylstyrole derivatives

SOURCE: Plasticheskiye massy*, no. 7, 1963, 8-9

TOPIC TAGS: methylstyrole, dimethylstyrole, synthesis, polymerization, bromo-toluene, magnesium, methylphenol, paraxylene

ABSTRACT: o-methylstyrole and 2,5-dimethylstyrole were synthesized and studied in detail. o-methylstyrole was synthesized from o-bromotoluene using organic magnesium compound and a subsequent oxidation with ethylene oxide, followed by hydrolysis of the obtained o-methylphenol alcohol over KOH. 2,5-dimethylstyrole was synthesized from paraxylene by the method of 2,5-dimethylacetophenon. The polymers of o-methylstyrole and 2,5-dimethylstyrole were obtained by block and emulsion methods. Their physico-mechanical and dielectric properties were studied. It was determined that o-methylstyrole and 2,5-dimethylstyrole polymers possess

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